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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,658	08/07/2001	David L. Williams	P-1085	1151

7590 09/27/2004

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EXAMINER	
TRAN, HIEN THI	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/923,658	WILLIAMS ET AL.	
	Examiner	Art Unit	
	Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-9, 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 3-9, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Rogers et al (3,620,685).

With respect to claims 1, 9, 14, Rogers et al discloses a radial reactor comprising:

a conventional radial reactor assembly containing a vertical, annular catalyst bed, and

a ring-shaped, vertical layer of material contained within catalyst bed, wherein material comprises active catalyst materials contained within a first ring-shaped, vertical layer the catalyst bed and an inert material contained within second ring-shaped, vertical layer of the catalyst bed (Fig. 1; col. 3, lines 10-15).

Although Rogers et al does not explicitly disclose that the catalyst disposed within the outer layer and the inert disposed within the inner layer, Rogers et al states in general that one layer is a catalyst layer and the other layer is inert layer, and that the annular spaces 5 and 7 are filled with either catalysts or other material depending on the different processes, different conditions, e.g. time, temperature, etc. (col. 3, lines 3-15, 31-33). Therefore the reactor of Rogers et al encompasses the structure of the reactor of the instant claims 1, 9, 14.

In any event, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select an appropriate location for the inert and the catalyst since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

With respect to claims 3-5, 7-8, 15-16, the apparatus of Rogers et al is substantially the same as that of the instant claims, but fails to disclose whether the specific thickness of the layer and the catalyst layer.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select an appropriate thickness of the layer and the catalyst layer in the apparatus of Rogers et al on the basis of its suitability for the intended use as a matter of obvious design choice to obtain the desired benefits thereof, absence showing any unexpected results, and since it has held that when the only difference between the prior art device and the claim was a recitation of relative size, e.g. thickness, and the device with the relative size would not perform differently than the prior art device, the claimed device was not patentable distinct and since it has been held that where the general conditions of a claim are disclosed in the prior

art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claims 6, 17, selecting an appropriate material for the inert layer in the apparatus of Rogers et al is within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system.

Response to Arguments

4. Applicant's arguments filed 7/14/04 have been fully considered but they are not persuasive.

Applicants argue that if Rogers et al's reactor was designed with the outer, catalyst layer and the inner, inert layer, it would perform less well than a radial reactor. Such contention is not persuasive as Rogers et al discloses that that one layer is a catalyst layer and the other layer is inert layer and further discloses that the annular spaces 5 and 7 are filled with either catalysts or other material depending on the different processes, different conditions, e.g. time, temperature, etc. (col. 3, lines 3-15, 31-33). Therefore the inert material and the catalyst material may be placed in either outer space 5 or inner space 7.

Applicants argue that the flow patter in the instant reactor is opposite from that of Rogers et al. However, the language of the instant claim is not commensurate in scope with such argument.

Applicants argue that the arrangement of the instant invention would produce improvements over what would be anticipated by Rogers et al. However, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of

the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Rogers et al discloses all of the structural elements recited in the instant claims. Rogers et al further states in general that one layer is a catalyst layer and the other layer is inert layer, and that the annular spaces 5 and 7 are filled with either catalysts or other material depending on the different processes, different conditions, e.g. time, temperature, etc. (col. 3, lines 3-15, 31-33). Therefore the reactor of Rogers et al encompasses the structure of the reactor of the instant claim.

Applicants argue that there is no explicit teaching of the arrangement. Such contention is not persuasive as Rogers et al does explicitly disclose that the annular spaces 5 and 7 are filled with either catalysts or other material depending on the different processes, different conditions, e.g. time, temperature, etc. (col. 3, lines 3-15, 31-33).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Morlec et al and Mather et al are cited for showing state of the art.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Tran

Hien Tran
Primary Examiner
Art Unit 1764

HT
September 22, 2004